IBC Better Boilers

Model SL 20-160 G3

Modulating Condensing Boiler

SUBMITTAL SHEET

STAMPS

Job Name _____

Address _____

Designer / Engineer _____

Wholesaler _____

Mechanical Contractor _____

Date _____ Quantity _____ Fuel Type: ◯ Natural Gas ◯ Propane from factory ◯ Propane field conversion

SL 20-160 G3 Boiler

- ASME approved pressure vessel constructed of high quality 439 Stainless Steel
- Heat exchanger performance maximized through a multi-tube, counter-flow fire-tube design
- Vertical combustion chamber and a down firing burner allow free gravity drainage of condensate from the heat exchanger
- Metal fiber knit burner
- Direct spark ignition
- Brushless DC fan
- Zero governing 24V gas valve
- A.F.U.E. of 95%
- Patented Moisture Management System ensures long life of components.

Certifications

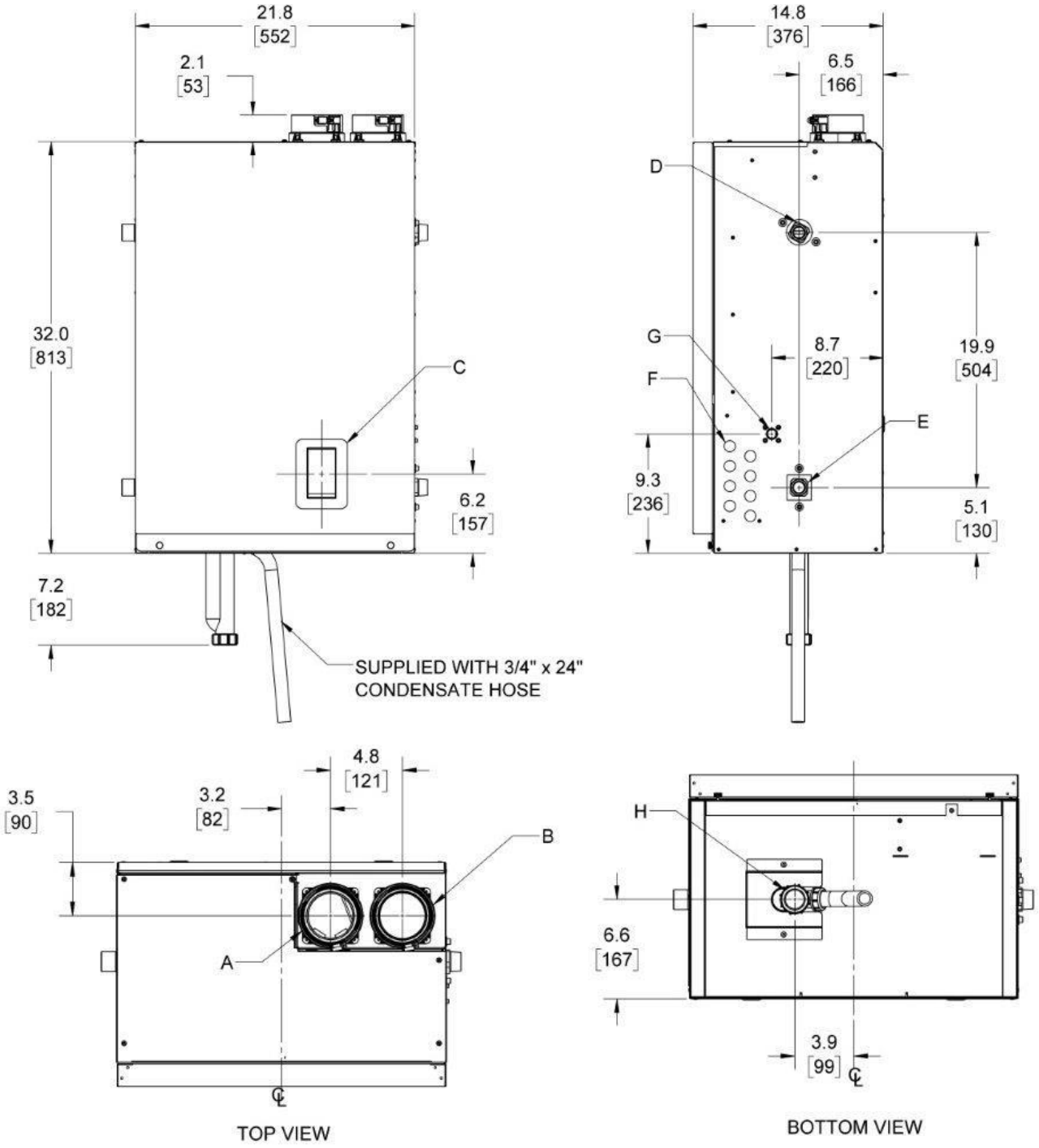
- Constructed in accord with ANSI Z21.13-2017 CSA 4.9-2017 and the ASME Boiler and Pressure Vessel Code, Section IV and bear the *H* stamp as per ASME code.
- Complies with SCAQMD Rule 1146.2 Paragraph (C)(8) for Low NO_x (<20ppm)
- SIM+ certified to CSA STD C22.2 #60730-2-5 and Conforming to UL STD 60730-2-5 & ANSI STD Z21.20

SIM+ (Safety Ignition Module)

- Provides ignition, flame proving and safety monitoring, including:
  - Electronic, probe-type Manual Reset Low Water Cut-Off
  - High Vent Temperature safety limit
  - Internal Manual Reset Electronic High limit with verification test
  - Fan Operation control

Boiler Control

- Clear LCD display providing plain English information
- Modulates boiler water temperature to outside air temperature
- Internal multiple boiler staging and rotation control for management of up to 24 boilers
- Software upgrade by internet or by USB port
- Accepts an external 0-10 VDC or 4-20 mA input signal
- BACnet over IP compatible (see Options)
- Two Interlock connections allowing external devices to effect a boiler safety shut-down
- Automatic altitude compensation to 12,000 ft.
- Electronic water pressure sensing, for digital display of system pressure
- Alarm dry contact for connection to external device
- Multiple load control with relays for five pumps
- Prioritizes up to 4 temperature circuits electrically for maximum fuel efficiencies
- Zoning feature for control of up to four pumps under a single load
- Load combining software for simultaneous running of compatible loads
- Load configuration save and export to USB
- Error log with detailed conditions capture
- Diagnostic pages for fan operation, sensors, boiler network and flame current
- Summer shutdown programmable by load
- User-defined unoccupied mode and DHW tank temperature (when using sensor)
- Variable speed output signal for IBC air handler fan
- Express setup mode for load parameters
- Thermostat ground terminal for power-stealing thermostat wiring
- Electronic ΔT fence of 40°F (22°C) to prevent thermal stress to boiler



BOILER HEAD LOSS – SL 20-160 G3							
Flow rate (gpm)	4	6	8	10	12	14	16
Head Loss (Ft.)	0.5	1.0	1.5	2.0	3.0	4.0	5.0

	DESCRIPTION	
A	Exhaust outlet	3" Schedule 40
B	Combustion air	3" Schedule 40
C	Touchscreen display	2¼" X 4"
D	Water outlet	1" NPT - M
E	Water inlet	1" NPT - M
F	Knock-outs (8)	½"
G	Gas inlet	¾" NPT - F
H	Condensate outlet	¾" hose

RECOMMENDED MINIMUM CLEARANCES	
Left side	1"
Right side	4"
Front	24"
Top	12"
Bottom	12"
Back	0"

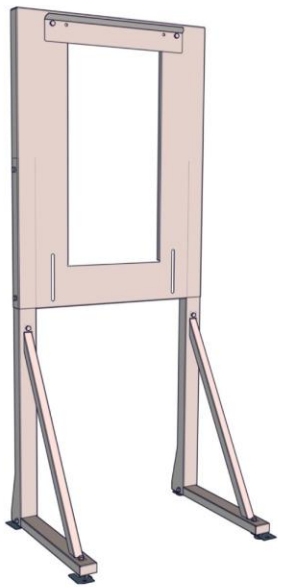
DESIGN AND PERFORMANCE DATA	
Energy input of boiler (NG and LP)	20 to 160 MBH 5.86 to 46.9 kW
Output of boiler (NG and LP)	19.0 to 147 MBH 5.57 to 43.1 kW
A.F.U.E.	95%
Min gas pressure (NG or Propane) - inch w.c.	4" w.c.
Max gas pressure (NG or Propane) - inch w.c.	14" w.c.
Ambient Temperature – Low / High	32°F (0°C) / 122°F (50°C)
Maximum relative humidity (non-condensing)	90%
Minimum water temperature	34°F (1°C)
Maximum water temperature	190°F (88°C)
Maximum ΔT supply / return (electronic fence)	40°F (22°C)
Maximum water temperature lockout limit	201°F (94°C)
Power use (120Vac/60Hz) @ full fire	82 Watts (less pumps)
Weight (empty)	102 lbs (46.3 Kg)
Heating Surface Area	14.19 ft^2 (1.32 m^2)
Pressure vessel water content	1.72 USg (6.51 L)
Maximum boiler flow rate	19 USgpm (1.20 L/sec)
Minimum boiler flow rate	4 USgpm (0.25 L/sec)
Maximum operating water pressure	30 psig (207 kPa)
Minimum water pressure	8 psig (55 kPa)
Manufacturer's approved installation altitude	0-12,000 ft (0-3658 m)
Approved Venting Materials	2", 3" PVC, CPVC, PP, SS
Maximum equivalent venting run each side (3")	170' (52 m)
CRN (as of Oct. 2018)	8718.7 CL

Options

- ☐ Propane Conversion Kit, IBC part P-306
- ☐ Natural Gas Conversion Kit, IBC part P-307
- ☐ BACnet activation, IBC part 700-002A1
- ☐ Secondary Loop Sensor with stainless steel well kit, IBC part P-216
- ☐ Intake Air Filter kit, IBC part P-172 (requires 3" pipe and 4x3 MJ coupling to adapt)
- ☐ Condensate Neutralization Tank, IBC part 180-048
- ☐ Boiler Network Wiring kit (1 required per link), IBC part P-255
- ☐ Flow Switch, IBC part 180-079 (for mounting on field-installed piping)

Racking Option

☐ Boiler Stand
- designed for quick on-site assembly
- IBC part P-267



Warranties
- Boiler pressure vessel comes complete with a 10 year limited warranty
- Burner, controls, and other included equipment comes complete with a five year warranty

Approved for combustion air taken from adequately ventilated boiler room (see B149.1 / ANSI Z223.1)

IBC Portal
- Registering through an Ethernet connection gives remote access to controller functions
- Technician's View optimized for a browser
- Contractor or end user can receive email alerts for error states

NOTES